

TWO NEW SPECIES OF NEARCTIC *OCHTHEBIUS*
(COLEOPTERA:HYDRAENIDAE)¹

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ABSTRACT

Two new species of the aquatic beetle genus *Ochthebius*, *O. leechi* and *O. spanglerorum*, are described from the western United States and discussed. A distribution map and figures of the pronota and male genitalia are presented.

The genus *Ochthebius* consists of small (approximately 2 mm in length), elongate, relatively flattened aquatic beetles which are found at the margins of aquatic habitats. The 2 new species described below are found near the waterline of streams, one (*O. leechi*) known only from California and the other (*O. spanglerorum*) widely distributed in the general region of the Rocky Mountains in the states of Colorado, New Mexico, North Dakota, Utah, and Wyoming.

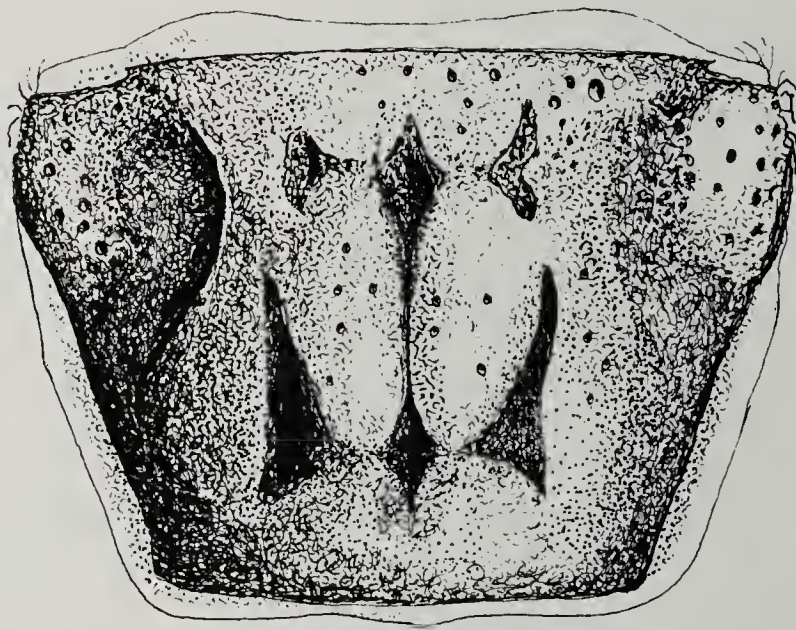
Ochthebius leechi Wood and Perkins, **new species**
(Figs. 2, 4, 5)

HOLOTYPE DESCRIPTION: *Male*, length 2.43 mm; body surface shining, head piceous above, dark fuscous below, maxillary palpi dark castaneous; basal antennal segments testaceous; pronotum piceous medially, lateral depressions and posterior margins fuscous, punctures and other depressions aeneous; elytra almost piceous, center of strial interstices rufopiceous; thoracic sterna piceous except posterior 1/3 of metathoracic basisternum rufopiceous; abdominal sterna piceous except terminal 2 dark fuscous.

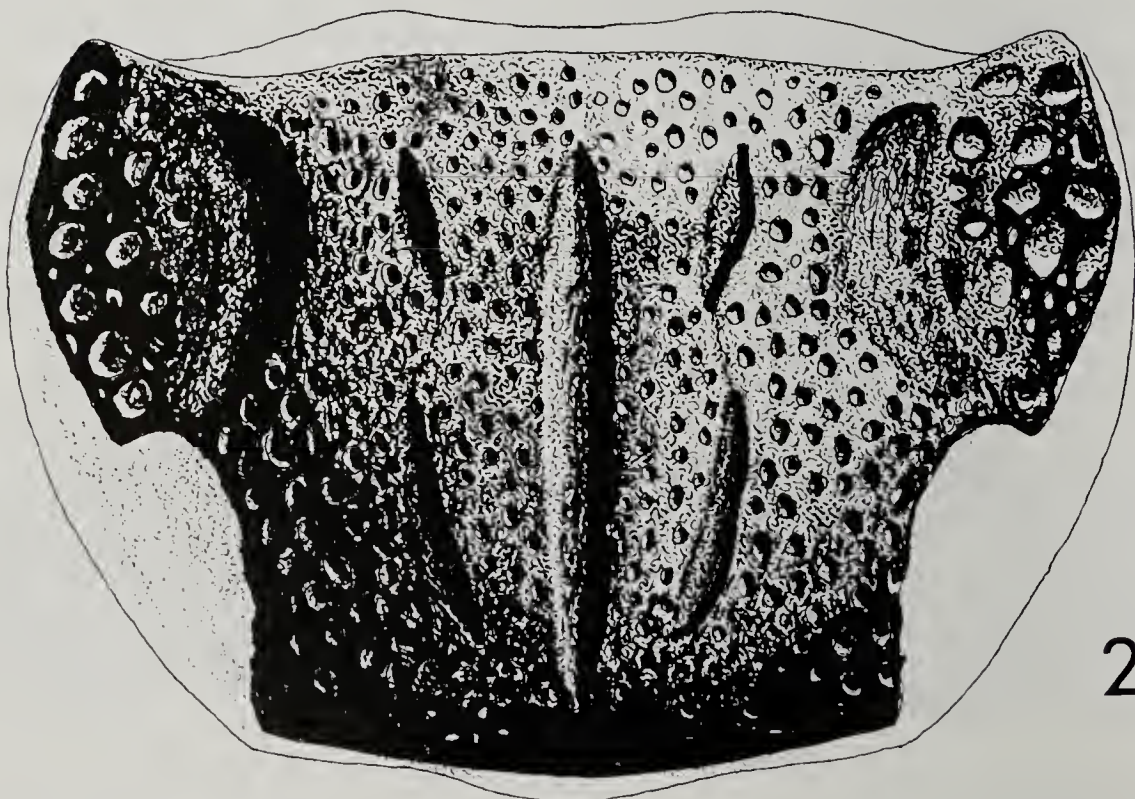
Head more than 2/5 broader than long; labrum less than 2/3 broader than long, anterior margin very arcuate, median emargination very deep, 2/5 the length, labrum reflexed on either side, surface rugulose, covered with short fine hairs; clypeolabral suture almost straight, very slightly arcuate; clypeus flat, 3 times broader than long, sides straight, parallel, surface covered with somewhat coarse punctures, punctural hairs short; frontoclypeal suture evenly arcuate, deeply impressed; interocular area flat, coarsely punctate, punctural hairs short; interocular foveae deep medially, not broad, inner margins connected with posterior margins by deep narrow sulci; frontal tuberculi small, located posterior to interocular foveae; basomedial fovea large, deep; maxillary palpi very large, penultimate segment expanded from base to apex; ultimate segment short, 1/5 as long as penultimate, blunt apically; mentum shiny, covered with small fine, shallow punctures; postgenae transversely swollen, rugose in front, smooth below and behind; gular suture apparent in front of postgenae.

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Pronotum (fig. 2) $1/3$ broader than long. Anterior hyaline border moderately wide in front of disc, wider just before lateral fossulae, narrowing and disappearing from view at apical angles; lateral hyaline border beginning behind apical angles narrow and arcuate along lateral depressions, wider posteriorly, less arcuate to posterior angles, continuing narrowly around posterior angles, constricted behind posterior margin on either side of broad, median lobe. Anterior margin of pronotum straight to anterior angles; anterior angles obtuse; outer margins of lateral depressions irregular, arcuate to midlength, then strongly constricted, posterolateral angles of lateral depressions acute; sides of posterior half of pronotum somewhat convergent nearly to posterior angles; posterior angles obtuse; posterior margin shallowly arcuate. Pronotal disc depressed, coarsely punctate, interstices less than diameter of punctures medially, about the diameter of punctures laterally; median groove moderately deep, straight sided, neither end attaining either margin; anterior



1



2

Figs. 1-2, Pronota: 1, *Ochthebius spanglerorum*; 2, *O. leechi*.

foveae small, deep medially; posterior foveae elongate, somewhat narrow and shallower than anterior foveae; lateral fossulae reticulate, deep anteriorly, shallow posteriorly; lateral depressions covered with broad punctures.

Elytra 1/3 longer than wide; lateral margins explanate; humeri very slightly elevated, broadly convex; strial punctures coarse, deep, punctural interstices very narrow; strial interstices as wide as diameter of a puncture, moderately convex, alutaceous.

Prosternum with a broad, longitudinal carina medially. Thoracic sterna covered with a dense appressed hydrofuge pubescence except for broad, flat, glabrous, shiny metathoracic basisternum. Basal 5 abdominal segments covered with appressed hydrofuge pubescence; penultimate sternum shining but shallowly punctate medially, rugulose laterally, covered with very sparse long hairs; ultimate sternum shining, flat, with a few long hairs posteriorly.

Male genitalia as illustrated (fig. 4).

TYPE-DATA: *Holotype*. Male, California, Glenn Co., Salt Cr. at Stony Cr., N. of Stonyford, 29-III-56, H. B. Leech. Deposited in the California Academy of Sciences, San Francisco.

Allotype. Same data as *Holotype*.

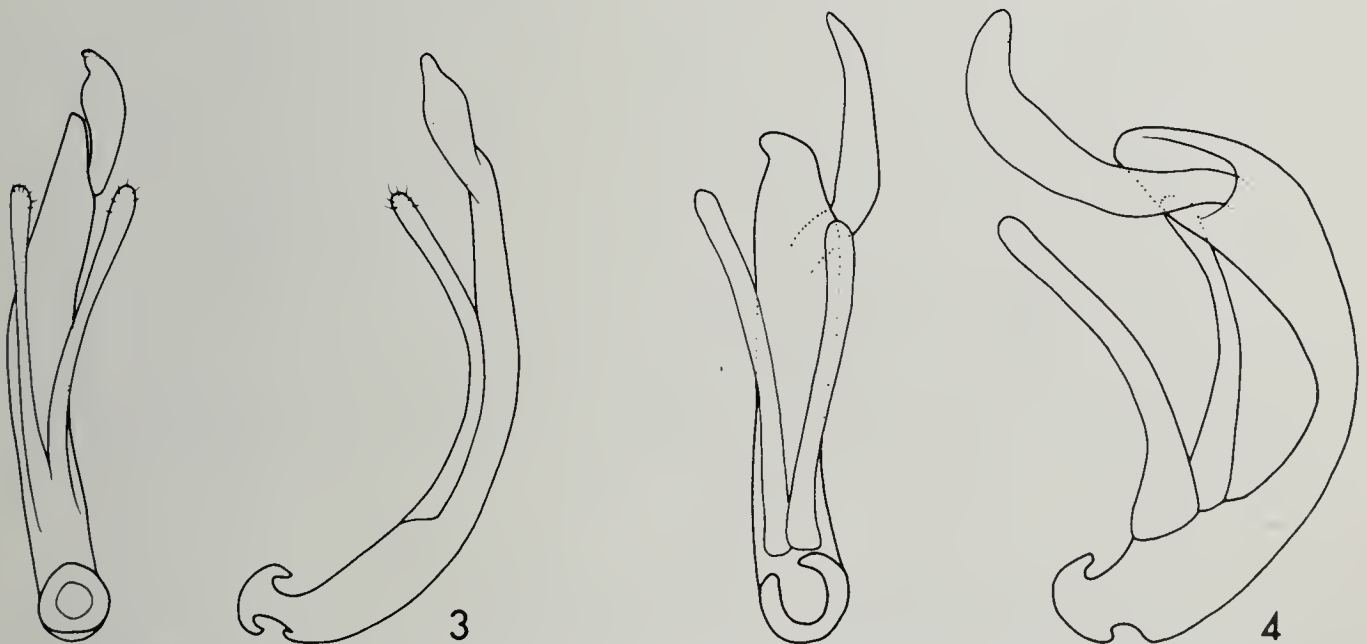
Paratypes. (96 specimens, all from California; number of specimens, sex and depository given in parenthesis, with the first entry indicating the number of males) (CAS=California Academy of Sciences; MCZ=Museum of Comparative Zoology; USNM=National Museum of Natural History; CNC=Canadian National Collection)

Colusa Co.: Sulphur Cr. at Wilbur Hot Sprs., flood pool, 29-III-56, H. B. Leech (1/1 CAS). Sulphur Cr. at Wilbur Springs, 1345', 5-IV-71, H. B. Leech (18/23 CAS; 2/1 USNM; 1/2 MCZ; 1/2 CNC). Wilbur Springs, 1250', 17-VI-71, P. D. Perkins (4/8 USNM). *Glenn* Co.: Same data as *Holotype* (11/5 CAS). Trib. to Stony Cr., 7 mi. N. Stonyford, 29-III-56, H. B. Leech (3/12 CAS). *Marin* Co.: Sleepy Hollow, Orinda, 3-V-38, H. B. Leech (1/0 CAS).

DISCUSSION: *Ochthebius leechi* is quite distinctive and is easily distinguished from any other described *Ochthebius* in the western hemisphere. It is the longest-bodied species in the western hemisphere, with a size range of 2.40-2.72 mm. Most specimens are approximately 2.50 mm long.

O. leechi is most closely similar to *O. puncticollis* LeConte 1852, but is longer, less convex, and has a greater elytral length/pronotal length ratio. The pronotum is shaped and sculptured differently, and the male genitalia are quite distinctive from those of *O. puncticollis*.

It is with pleasure that we dedicate this new species to Hugh B. Leech, in recognition of his many contributions to the knowledge of aquatic Coleoptera.



Figs. 3-4, Male genitalia: 3, *Ochthebius spanglerorum*; 4, *O. leechi*.

Ochthebius spanglerorum Wood and Perkins, **new species**

(Figs. 1, 3, 5)

HOLOTYPE DESCRIPTION: *Male*, length 1.92 mm; body surface shining; labrum and clypeus piceous, interocular area dark fuscous, head dark castaneous below except for testaceous basal antennal and basal palpal segments, ultimate palpal segments darker; pronotum castaneous medially, suffused border dark testaceous; prothoracic sternum dark castaneous medially, dark testaceous laterally, meso- and meta-thoracic sterna piceous, legs testaceous; elytra dark testaceous, almost castaneous; basal 5 abdominal sterna piceous, apical 2 dark castaneous.

Head twice as broad as long; labrum 3 times broader than long, arcuate anteriorly, median emargination deep, half the length of the labrum, surface rugulose, covered with recurved hairs; clypeolabral suture almost straight, very slightly arcuate; clypeus almost twice as broad as long, broadly margined anteriorly,

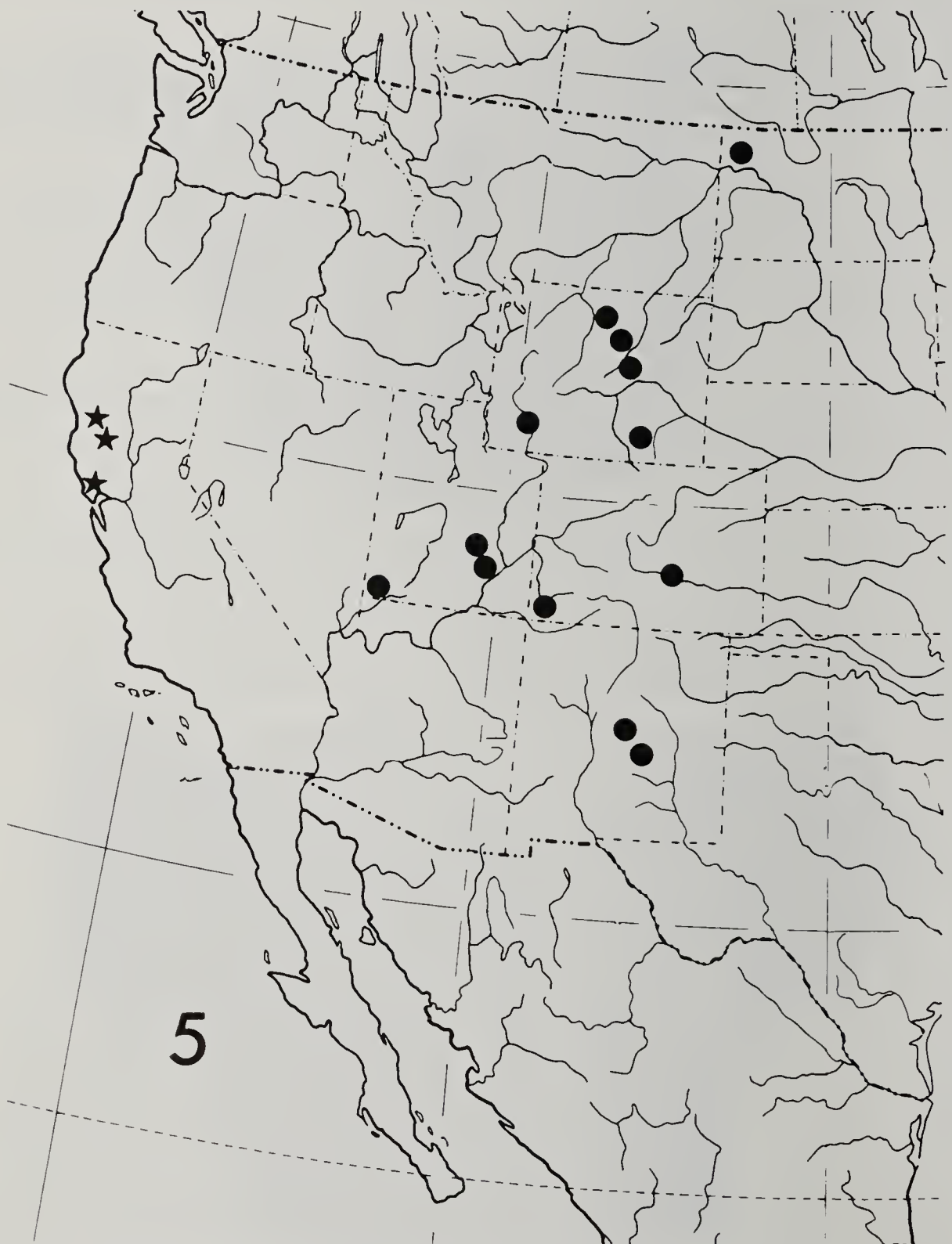


Fig. 5, Distribution of *Ochthebius leechi* (stars) and *O. spanglerorum* (solid circles).

margin glabrous, shiny, surface finely rugulose behind margin and laterally, glabrous, shiny medially, rugulose areas covered with short recumbent hairs; frontoclypeal suture evenly arcuate, somewhat deeply impressed; interocular area covered with fine sparse punctures, punctural setae fine; interocular foveae transversely ovate, inward margins almost connected with posterior margins by incomplete sulci; interocular tuberculi castaneous, large, convex and smooth; basomedial fovea very shallow; maxillary palpi long, penultimate segment swollen apically, 1/3 longer than ultimate segment, ultimate segment cylindrical, narrow, acuminate apically; mentum smooth, shiny; postgenae slightly swollen transversely, rugulose in front, shiny behind; gular suture apparent.

Pronotum (fig. 1) 1/3 broader than long. Anterior hyaline border somewhat wide medially and laterally, widest before the lateral fossulae and disappearing from view at anterior angles; lateral hyaline border beginning behind anterior angles, straight, convergent to the posterior angles, rounded at posterior angles and continuing narrowly around posterior margin, very slightly wider medially. Anterior margin of pronotum straight in front of disc, slightly directed posteriorly past lateral fossulae, emarginate just before anterior angles; anterior angles deflexed and acute; outer margins of lateral depressions slightly arcuate anteriorly, then straight, convergent to posterior angles; posterior angles rounded; posterior margin shallowly arcuate. Pronotal disc somewhat convex, covered with very fine, sparse punctures, punctural setae very fine; median groove deep and rugulose anteriorly and posteriorly, not attaining either margin, acuminate at anterior end, widened immediately, then tapering to a narrow somewhat shallow constriction, wide posteriorly; anterior foveae deep, rugulose, elongate, narrow; posterior foveae rugulose, elongate, wider and shallower than anterior foveae; discal impressions subquadrate in outline; elevated median areas, and sides of disc shiny; lateral fossulae deep, rounded anteriorly, deepest posteriorly; lateral depressions convex.

Elytra slightly less than 1/3 longer than wide; lateral margins narrowly explanate; humeri only very slightly elevated, convex; disc not flat; strial punctures very shallow, large subhypodermal macula under each puncture, punctural hairs moderately long, very fine; strial interstices not convex.

Prosternum longitudinally subcarinate; thoracic sterna covered with dense hydrofuge pubescence, hairs longer and appressed on metasternum, glabrous area on metathoracic basisternum long, narrow. Basal 5 abdominal sterna covered with dense hydrofuge pubescence; apical 2 sterna shiny, glabrous except for posterior margins, terminal abdominal tergum rounded, extending slightly beyond terminal sternum.

Male genitalia as illustrated (fig. 3).

TYPE-DATA: *Holotype*. Male, Colorado, Montezuma Co., Navajo Spring Creek, 4-VIII-72, P. D. Perkins (USNM #75662). Deposited in the National Museum of Natural History, Smithsonian Institution.

Allotype. Same data as *Holotype*.

Paratypes. (135 specimens; number of specimens, sex and depository given in parenthesis, with the first entry indicating the number of males) **COLORADO**: *Fremont Co.*: Canon City, no date, Wickham (0/1 CAS). *Montezuma Co.*: Same data as *Holotype* (2/9 USNM). **NEW MEXICO**: *Lincoln Co.*: 5 mi. N. Angus, Hwy. 37, 7050', 7-VIII-65, H. B. Leech (11/20 CAS; 2/2 USNM). *Torrance Co.*: 10 mi. SW Mountainair, stream by Abo State Mon., 21-VIII-67, H. B. Leech (4/3 CAS). **NORTH DAKOTA**: *Williams Co.*: Williston, no date, Wickham (0/1 CAS). **UTAH**: *Emery Co.*: San Rafael Swell, 5000', 5-XI-40, H. P. Chandler, (1/2 CAS). *Washington Co.*: St. George, no date, Wickham (1/3 CAS; 3/2 USNM; 1/3 MCZ). Leeds, 7-VIII-33, Wickham (13/9 USNM; 1/3 CAS; 2/4 MCZ). *Wayne Co.*: 14 mi. S. Hanksville, light, sand-oak area, 3-VIII-68, H. & A. Howden (1/4 CNC). **WYOMING**: *Bighorn Co.*: Mouth of Shell Cyn. at Shell, 4230', 25-VII-64, H. B. Leech, (1/0 CAS). *Carbon Co.*: Medicine Bow, 22-VIII-41, H. P. Chandler (1/1 CAS). *Johnson Co.*: S. fork of Crazy Woman Cr., 27-VII-64, H. B. Leech (1/0 CAS). *Natrona Co.*: Dugout Cr., 8.5 mi. NW of Midwest, 27-VII-64, H. B. Leech (10/9 CAS). *Sweetwater Co.*: 10 mi. W. Rock Springs, Hwy. 30, Ox-bow cut-off of Bitter Cr., 23-VIII-65, H. B. Leech (2/2 CAS).

DISCUSSION: *Ochthebius spanglerorum* varies in total length from 1.76 mm to 2.00 mm, but most specimens are approximately 1.90 mm. Of the named species, *O. spanglerorum* is most closely similar to *O. lineatus* LeConte 1852. The majority of specimens of *O. lineatus* have the anterior

and posterior pronotal foveae joined by a longitudinal groove. The combined foveae and groove give the visual impression of a distinctive sinuate line on either side of the pronotum. Specimens of *O. spanglerorum*, by contrast, generally have the anterior and posterior pronotal foveae clearly separated by a shiny region. However, specimens of *O. lineatus* will infrequently lack the connecting groove and, equally as infrequently, specimens of *O. spanglerorum* will possess a very narrow groove connecting the 2 foveae. In such cases the shape of the lateral depressions can be used to distinguish the 2 species. In *O. lineatus* the lateral depressions are flat and extend to the posterior 1/3 of the pronotum, whereas those of *O. spanglerorum* are convex and end near the midlength of the pronotum. In addition, the shape of the labrum differs in the 2 species, with both sexes of *O. spanglerorum* being deeply emarginate and males having the lobes slightly upturned, in contrast to *O. lineatus* which has the labrum very slightly emarginate in both sexes and males with the anteromedial edge of the labrum upturned. The male genitalia of the 2 species are quite distinctive.

We are pleased to name this species in honor of Phyllis and Paul Spangler, whose accomplishments in collecting aquatic beetles are now and will continue to be of great value in the taxonomy of Coleoptera.

LITERATURE CITED

- LeConte, J. L. 1852. Descriptions of new species of Coleoptera from California. *Annals of the Lyceum of Natural History of New York*, 5:125-216.



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—D.R.W.